

**(12) INTERNATIONAL APPLICATION PUBLISHED UNDER  
THE PATENT COOPERATION TREATY (PCT)**

(19) World Intellectual Property Organization  
International Bureau

[WIPO]

[Bar Code]

(43) International Publication Date

October 6, 2005 (10/06/2005)

(10) International Publication Number

**WO 2005/093357 A1**

**PCT**

(51) International Patent Classification<sup>7</sup>: **F28F 9/00, 9/04, B01D 35/00**

(71) Applicant (*for all designated states except the U.S.:*) **HYDAC S.A. [CH/CH]; Zona Industria - Via Sceresa, CH-6805 Mezzovico (CH)**.

(21) International Application No.: **PCT/EP2005/002280**

(72) Inventor; and

(22) International Filing Date:  
March 4, 2005 (03/04/2005)

(75) Inventor/Applicant (*U.S. only:*) **ZEOLLA, Giuseppe [CH/CH]; Salita al Colli 5, CH-6600 Muralt (CH)**.

(25) Language in which the international application was  
originally filed: **German**

(74) Representative: **BARTELS AND PARTNER; Lange  
Strasse 51, 70174 Stuttgart (DE)**.

(26) Language in which the international application is  
published: **German**

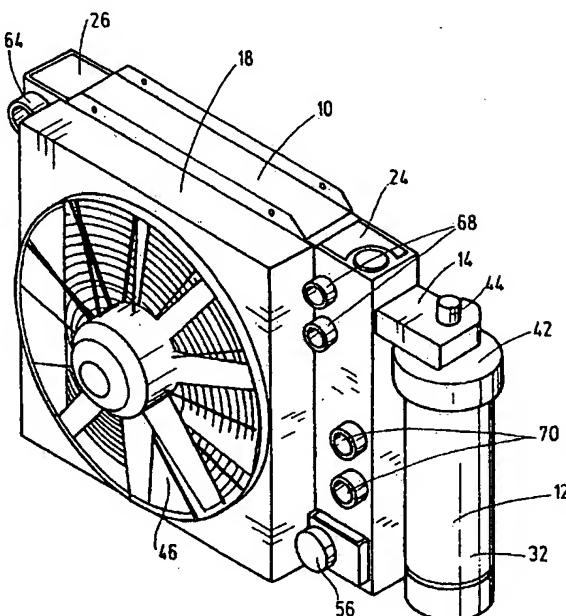
(81) Designated States (*unless otherwise indicated, for every  
kind of national protection available:*) **AE, AG, AL,  
AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DK, DM, DZ,**

(30) Priority Data:  
10 2004 015 505.4 March 28, 2004 (03/28/2004) DE

*[continued on next page]*

(54) Title: **COOLING DEVICE**

**WO 2005/093357 A1**



eigentlichen Vorrichtungsgehäuse der Kühleinheit (10) angeordnet, und dennoch integrativ mit derselben verbunden.

(57) Abstract: A cooling device comprises a cooling unit (10) through which a fluid to be cooled, in particular hydraulic oil, can flow, the unit having a housing (18) and at least one filter unit (12) for filtering the fluid. The housing (18) of the cooling unit (10) comprises at least one overhanging support arm (14) which establishes a fluid communication between the corresponding filter unit (12) and the cooling-unit (10). The filter unit (12) with the filter element is thus arranged outside the actual housing of the cooling unit (10), while being connected in an integrated manner to the same by means of the support arm (14).

(57) Zusammenfassung: Die Erfindung betrifft eine Kühlvorrichtung mit einer von einem zu kühlenden Fluid, insbesondere Hydrauliköl, durchströmmbaren Kühleinheit (10), die ein Vorrichtungsgehäuse (18) aufweist und mit mindestens einer Filtereinheit (12) für die Filtration des Fluids. Dadurch, dass das Vorrichtungsgehäuse (18) der Kühleinheit (10) mindestens einen auskragenden Tragarm (14) aufweist, über den die jeweilige Filtereinheit (12) fluidführend mit der Kühleinheit (10) verbunden ist, ist die Filtereinheit (12) mit dem Filterelement außerhalb des

EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TY, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European Patent (AT,

BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *With International Search Report.*

*Reference is made for an explanation of the two-letter codes and the other abbreviations to the Guidance Notes on Codes and Abbreviations in the front section of each regular PCT Gazette edition.*